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## ORGANIZATIONAL AND MANAGEMENT ASPECTS

I. Introduction

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This memorandum summarizes████views on certain CIA
ADP organizational/management problems and how they might be
handled. The scope of this memo is Agency-wide and therefore
perhaps exceeds somewhat our charter and even that of ASPIN.
But in the course of our work we noted that many seemingly
technical problems within DDI and DD/S&T had their roots in
the present ADP organization and attitudes across the Agency.
Since we have not studied the Agency-wide problem in depth,
our ideas are at best illustrative and suggestive, and are
meant to stimulate thought rather than propose finished solutions.

II. Summary

The present highly decentralized management of ADP has
numerous virtues, including the encouragement of local initiative,
freedom from an ADP bureaucracy, and the ability to satisfy well
defined, short-term ADP needs. But it also suffers from a lack
of longer-range vision, insufficient planning, inadequate control,
inability to profit from experience and the absence of a central
ADP focus.

In an attempt to correct some of the faults while preserving
as many as possible of the virtues of the present system, we
have considered centralization/decentralization alternatives
and recommend the following:

1) strengthen the existing central review of
hardware acquisition by developing a standard format
for equipment proposals;

2) consolidate headquarters computer operations
into no more than two units, and initiate a charge-
back system for computer utilization;

3) establish a career service for ADP personnel;

4) retain local initiative in applications
development, but assign technical/functional leader-
ship responsibility for broad areas (e.g., numerical
analysis, text processing) to specific Agency components
which will review all applications proposals in their
areas;
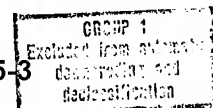
5) in general, continue <u>local planning</u> for ADP support, but strengthen <u>central review</u>;

6) establish the full-time post of ADP advisor to the Executive Director.

III. <u>Current Status</u>

Except for central review of significant outside expenditures for equipment and for contract systems and programming, CIA now has very highly decentralized ADP activities. The advantages of the present arrangement are:

1) local initiative is encouraged;

2) there is little ADP bureaucracy, and ADP applications, with some exceptions, are user-dominated, rather than technician-dominated;

3) specific, definable needs, which can be handled by straightforward projects with short-term payoffs, tend to be met well.

However, these virtues are blunted to some extent by:

1) <u>a lack of longer-range vision</u>: the dispersion of resources discourages Agency-wide views of problems, and limited local resources encourage conservatism towards what is feasible;

2) <u>a lack of planning</u>: there are no cohesive views about goals and priorities; this leads to inefficient use of the scarcest resource - skilled manpower; with efforts (and costs) so dispersed, ADP has a low profile; systems problems are not sufficiently "visible" to receive attention by senior management;

3) <u>inadequate control</u>: information on project initiations, goals, progress, costs, and accomplishments is often inadequate and inconsistent;

4) <u>inability to profit from experience</u>: the review process is inadequate so that lessons are not learned; there is unnecessary overlap in application development, and technical manpower and management resources are spread too thin; ADP personnel are too

immobile to provide cross-fertilization and an
alerting to technical duplication; the immobility
of manpower is especially deleterious at the
project management level;

     5) <u>lack of central focus</u>: there is no
leadership at the Agency level to provide guidance
in ADP professional/technical areas.

ADP is becoming increasingly important and expensive, and
the above weaknesses suggest the need for a review of current
managerial policy and of organization in an effort to correct
at least some of the deficiencies while retaining as many as
possible of the advantages of the present system. The approach
must retain local initiative and user dominance in expressing
needs, but encourage the employment of the Agency's scarcest
EDP resource - skilled technical personnel - according to
priorities which reflect the needs of the Agency as a whole.

IV. Conclusions and Recommendations

Centralization/decentralization considerations apply separately
to:

     1) equipment acquisition;

     2) equipment operations;

     3) systems and programming personnel;

     4) applications development;

     5) planning.

Some possible combinations which reflect varying degrees of
centralization are listed in Figure 1.

Our specific comments, on each of the variables and on the
organizational implications of the resulting combination, follow.

A. Equipment Acquisition

There is currently a central review of local
proposals. This should be strengthened through the
promulgation of a standardized hardware proposal format,
which would provide comparable input, both to the review
process and for later analysis.

CENTRALIZATION/DECENTRALIZATION ALTERNATIVES

	CENTRALIZED	INTERMEDIATE	DECENTRALIZED
Equipment Acquisition	Central Planning	Central Review of Local Proposals	Local Decision
Equipment Operations Responsibility	Central Management	Small Number of Assigned Responsibilities	Local Management
Personnel	Central Pool	Local Employment: Central Review and Rotation	Local Hiring and Allocation
Applications Development	Central Responsibility	Assignment of Functional/Technical Responsibility; Central Review of Programs and Progress	Local Responsibility
Planning	Central Planning	Central Review, Adjustment and Goal Setting	Local Planning

FIGURE I

B.   Operations responsibility

Computer operations are currently decentralized and locally managed. As a result, we believe that skilled systems programming and operations manpower is spread too thin, that important economies of scale in equipment utilization and backup, which will become increasingly important with on-line systems, are sacrificed, and that data communications arrangements will be unnecessarily complex. These disadvantages outweigh the desirable features of local control.

On the other hand a single monopolistic computer resource could become too bureaucratic. Local initiative might be stifled if it was dependent on a single point of view concerning computer operations.

We favor consolidating headquarters computer operations in two units: one in OCS and one somewhere else, perhaps in the DDP. This might permit some security compartmentation, while still offering a choice for many users.

Such a consolidation of operations will probably sooner or later have to be supplemented by a chargeback system to rationalize "competition" between the two sources of hardware services.

C.   Personnel

Currently, all ADP personnel are handled locally. We re-propose an ADP Career Service aimed at providing personnel growth programs, permitting allocation of personnel to meet Agency-wide needs (especially in project management), and increasing cross-fertilization. Such a career service has many parallels within the Agency. It has recognized weaknesses, but we believe the potential gains outweigh these.

D.   Development of Individual Applications

Currently this is done locally, and we would retain local initiative to encourage interaction with the users.

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However, there is presently too much reinvention of technical wheels. In an attempt to deal with this, we suggest assignment of functional/technical responsibility to specific Agency components for systems employing broadly similar computer methodologies such as text processing, graphics, numerical analysis, structured files, text editing and printing, etc. The units assigned would have the responsibility for being completely up to date in that field and, presumably, would be undertaking the largest intra-Agency efforts therein. They would provide technical review and comment, in a standard format, on all projects in their assigned areas, no matter where initiated in the Agency. The end users would not necessarily be forced to follow the advice of the technically responsible component, but their response to the review should establish clearly the reason for a departure.

All significant application proposals should be assigned either to one of these functional/technical units or to a special unit; this latter is needed to assure a review even when the user claims a new program does not fit any existing unit's responsibility. It will probably also be necessary to make a periodic central review of the use of ADP manpower so that projects will not be bootlegged in small increments.

E. Planning

Currently, ADP planning is local. It should remain so, but we propose a central review to establish a cohesive picture out of the local plans. The cohesive picture will require the establishment of administrative standards for project reporting. The central review should add to these local plans a broader overall "vision" of long range targets to guide and stimulate local thinking. This "vision" will not be a road map or blue print to be followed in detail, but broad concepts to provide direction and leadership.

The central planning function would also encompass the establishment of technical standards for system development across the Agency. These standards should include computer languages, the format of systems and programming specifications, communications interfaces, and the like.

F. Organizational Implications

In addition to the organizational changes implicit in the above proposals, we are suggesting the establishment of the full-time position of ADP advisor to the Executive Director. He should be a very senior ADP professional, and a preliminary outline of his duties would include:

1) advise the ExDir on all professional/technical matters relating to ADP;

2) be an ex officio member of the IPB and the director of its permanent staff;

3) review the various local plans, provide technical input to IPB and, periodically, develop a statement of long term ADP objectives for the Agency;

4) assign application design proposals to the suitable functional/technical review component;

5) prepare standards relating to both program planning (equipment and application) and primary design parameters (computer languages, operating systems, etc.)

6) advise on ADP career planning and recommend transfers to improve individual opportunities and make optimal use of technical manpower;

7) serve as focal point for internal leadership in ADP and for external relations in technical/professional matters.

Other organizational changes implicit or explicit in the preceding portions of this paper include:

1) Concentration of headquarters equipment operations responsibility in OCS and one other place;

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2) establishment of an ADP career service;

3) strengthening the central planning, review and control mechanisms through

a) the promulgation of administrative and technical standards;

b) assignment to specific Agency units of review responsibilities for broad systems areas;

c) regular project performance review.

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TEXT STREAM PROCESSING: DRAFTING, EDITING AND PRINTING